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**WONDEC**

沃能德機械

**IG Glass Processing Equipment**

for World user Services

中空玻璃**智能加工设备**全球供应商

## Brief Introduction

### 關於沃能德

#### WONDEC:

Jinan WONDEC Machinery Co., Ltd. is located in beautiful spring city Jinan, is specialized in high-quality upvc and aluminum door-window machines, insulating glass machines research and development, production, sales and technical services of modern high-tech enterprises.

#### INNOVATION:

WONDEC adhering to the tradition and constant innovation, adhere to the introduction of the world's most advanced technology and independent research and development of both R & D ideas to guide the trend of technology to create

#### SERVICE:

WONDEC Machinery provide 24-hour telephone and online service to ensure efficient, fast, timely and convenient full-service. WONDEC will take concrete actions to express our attitude towards the service.

#### DEVELOPMENT:

WONDEC has exported equipment to more than 50 countries and regions around the world, the company will be intelligent equipment to automation as the direction of development, to better meet the needs of the system of windows and doors and a variety of insulating glass production needs, do not forget the beginning, efforts forward.

濟南沃能德機械有限公司座落在美麗泉城濟南，是專業從事高質量塑料門窗設備，鋁門窗設備，中空玻璃設備研發、生產、銷售與技術服務的現代化高新技術型企業。

創新：公司秉承傳統，不斷創新，堅持引進世界最先進技術與自主研發并舉的研發思路，以技術引導潮流，以質量打造品牌，使沃能德機械與國際需求接軌。

服務：濟南沃能德機械提供 24 小時電話和網絡售後服務，保證高效、快捷、及時、方便的全方位服務，沃能德機械會以實際行動來表達我們對服務的態度。



## WONDEC--let the world fall in love with China

### 沃能德 -- 讓世界愛上中國造



WONDEC as the leading global supplier of intelligent processing equipment for insulating glass, has made use of the industry accumulation in recent ten years, has undertaken the equipment planning and construction work in many countries of the world, established long-term cooperative relationship with users, and established a sales service network all over the world.

沃能德作為行業領先的中空玻璃智能加工設備全球供應商，利用近十年的行業積累，承擔了全球多個國家地區的設備規劃建設工作，與用戶建立了長期的合作關係，并在主要地區建立了銷售服務網絡。

## Provide the Best Equipment Configuration Scheme and Personalized Customization

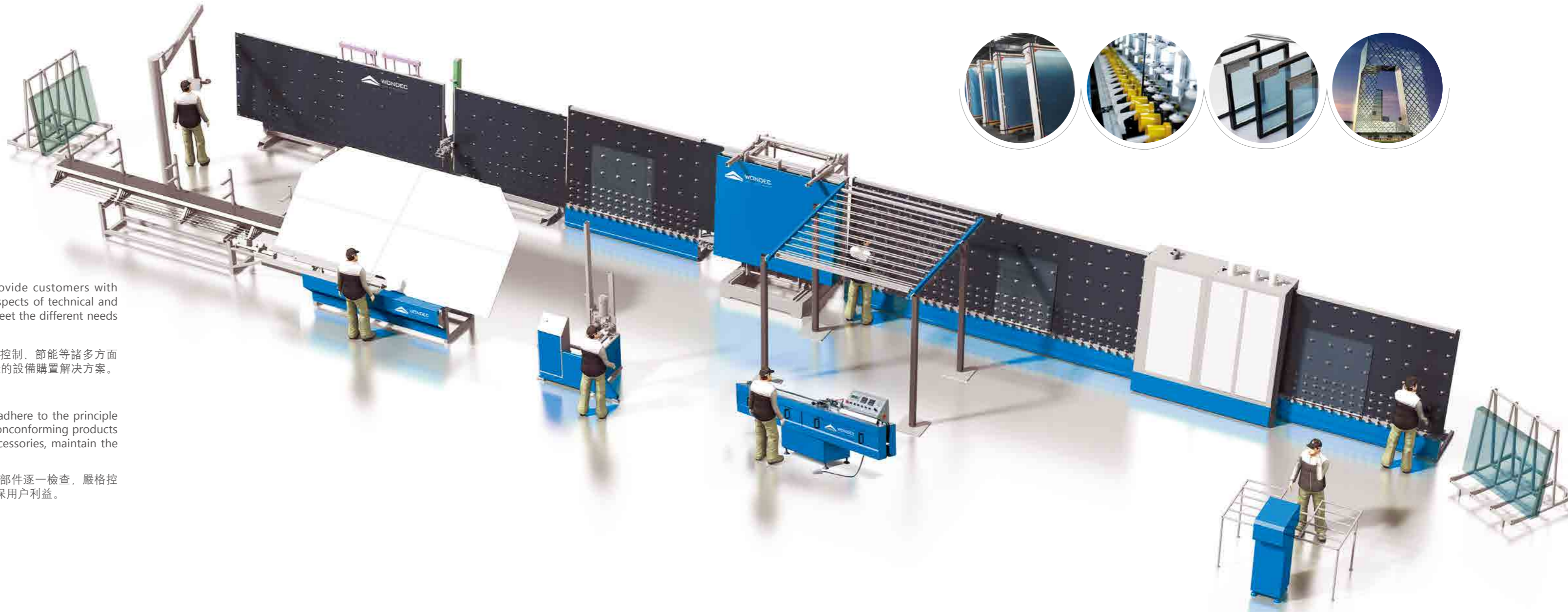
### 提供最佳設備配置方案及個性化定制

WONDEC Machinery according to the needs of customers, the company can provide customers with capital budget, process standards, efficiency, cost control, energy saving and other aspects of technical and programmatic support, and can provide users with personalized selection device, to meet the different needs of users, to provide the best equipment purchase solution.

沃能德機械根據客戶的需求，公司可為客戶提供資金預算、工藝標準、效率產能、成本控制、節能等諸多方面的技術和方案支持，並可為用戶提供個性化的選配裝置，滿足用戶不同的需求，提供最佳的設備購置解決方案。

"Quality" is the foundation of the survival and development of WONDEC, WONDEC adhere to the principle of "quality first", the implementation of parts one by one inspection, strict control of nonconforming products into the company 's production link, and provide users with original factory pure accessories, maintain the accuracy of the use of equipment, to ensure the interests of users.

沃能德機械“質量”是公司生存及發展的根本，公司信守“質量至上”的原則，實施零部件逐一檢查，嚴格控制不合格品流入公司生產環節，並為用戶提供原廠純正配件，保持設備的使用精度，確保用戶利益。



# High Efficiency Energy Saving Automatic Insulating Glass Production Line

高效，節能中空玻璃自動生產綫



## WONDEC GLASS SOLUTIONS

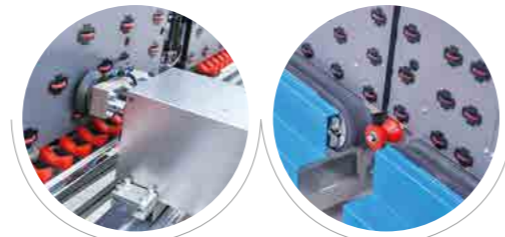
*INNOVATIVE TECHNOLOGY*  
*INNOVATIVE SOLUTION*



# WZX-A/WZX-B

## Insulating Glass Automatic Sealing Robot

### 中空玻璃全自動封膠機



WZX-A

WZX-B



#### Equipment Advantages 設備優勢

- Integrated frame design in order to minimize the size of equipment, saving installation space.
  - Automatic sealant discharging function to avoid the pipe blockage caused by human factors.
  - Special design for checking the depth of sealant in order to control the spread of sealant automatically.
  - Two sets of spreading sealant system can work completely independent (including mixer). One key switch for changing two component sealant.
  - Coating with glass edge neatly, no dislocation. After coating the glass edge without seam, enrich the corner, quadrilateral smooth surface no need to repair the glass corner.
  - V block type synchronous belt, make sure the smooth glass transmission and accurate positioning, also can reduce the phenomenon of belt sticking by sealant.
  - Convenient operation.
- 整合式機架設計，最大限度縮小設備的外形尺寸，節省安全空間。
  - 自動排膠功能，避免因人為因素造成管道阻塞。
  - 特制的膠深檢測裝置，自動控制塗膠量。
  - 兩套供膠系統完全獨立（含混膠器），兩組密封膠一鍵式切換。
  - 玻璃切邊整齊合片無錯位的條件下塗膠，玻璃邊部飽滿無氣綫、角部充實、四邊表面平整無需修角。
  - V塊式同步帶傳送，使玻璃傳送平穩定位精確，并可減少傳送帶粘膠現象。
  - 人機界面友好簡捷，操作方便。

#### Technical Parameter 技術參數

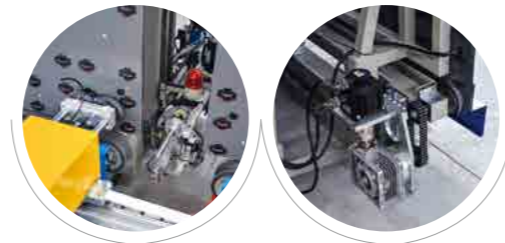
		WZX20-A	WZX25-A	WZX20-B	WZX25-B
Max. glass size	玻璃最大尺寸	2500×2000mm	3500×2500mm	2500×2000mm	3500×2500mm
Min. glass size	玻璃最小尺寸	300×180mm	300×180mm	300×180mm	300×180mm
Glass thickness	中空玻璃厚度	12~60mm	12~60mm	12~60mm	12~60mm
Coating depth	塗膠深度	3~18mm	3~18mm	3~18mm	3~18mm
Aluminum frame width	鋁框寬度	6~24mm	6~24mm	6~24mm	6~24mm
Coating speed	塗膠速度	5~40m/min	5~40m/min	5~40m/min	5~40m/min
Transmission speed	傳輸速度	5~50m/min	5~50m/min	5~50m/min	5~50m/min
Hydraulic pressure	液壓壓力	< 100kgf/cm <sup>2</sup>	< 100kgf/cm <sup>2</sup>	< 100kgf/cm <sup>2</sup>	< 100kgf/cm <sup>2</sup>
Air pressure	氣源	0.6~0.8Mpa	0.6~0.8Mpa	0.6~0.8Mpa	0.6~0.8Mpa
Total power	總功率	10kW	13kW	10kW	13kW
Overall dimension	設備尺寸	8200×3500×2900mm	11010×3500×3400mm	8200×3500×2900mm	11010×3500×3400mm



# WZX20-C/WZX25-C

## Insulating Glass Automatic Sealing Robot

### 中空玻璃全自動封膠機



#### Equipment Advantages 設備優勢

- Automatic corner repair function ,realizing glass corner repairing automatically.
  - The integrated frame design,to minimize the size of the equipment,saving installation space.
  - Automatic glue discharging function to avoid the pipe blockage caused by human factors.
  - Special design for checking the depth of sealant in order to control the spread of sealant automatically.
  - Two sets of spreading sealant system can work independently (including mixer). One key switch for changing two sets of sealant.
  - Coating with glass edge neatly,no dislocation.After coating the glass edge without seam,enrich the corner,quadrilateral smooth surface no need to repair the glass corner.
  - Transfer integral V type rubber synchronous belt,make the glass transmission smooth and accurate positioning,and can realize the processing of ultra small pieces of glass.
  - Convenient operation.
- 自動修角功能，可實現玻璃角部自動壓膠，提高中空玻璃的密封質量。
  - 整合式機架設計，最大限度縮小設備的外形尺寸，節省安全空間。
  - 自動排膠功能，避免因人為因素造成管道阻塞。
  - 特制的膠深檢測裝置，自動控制塗膠量。
  - 兩套供膠系統完全獨立（含混膠器），兩組密封膠一鍵式切換。
  - 玻璃切邊整齊合片無錯位的條件下塗膠，玻璃邊部飽滿無氣綫、角部充實、四邊表面平整無需修角。
  - 整體式V型橡膠同步帶傳送，使玻璃傳送平穩定位精確，并可實現對超小片玻璃的加工。
  - 人機界面友好簡捷，操作方便。

#### Technical Parameter 技術參數

		WZX20-C	WZX25-C
Max. glass size	玻璃最大尺寸	2500×2000mm	3500×2500mm
Min. glass size	玻璃最小尺寸	300×180mm	300×180mm
Glass thickness	中空玻璃厚度	12~60mm	12~60mm
Coating depth	塗膠深度	3~18mm	3~18mm
Aluminum frame width	鋁框寬度	6~24mm	6~24mm
Coating speed	塗膠速度	5~40m/min	5~40m/min
Transmission speed	傳輸速度	5~50m/min	5~50m/min
Hydraulic pressure	液壓壓力	<100kgf/cm <sup>2</sup>	<100kgf/cm <sup>2</sup>
Air pressure	氣源	0.6~0.8Mpa	0.6~0.8Mpa
Total power	總功率	15kW	19kW
Overall dimension	設備尺寸	8200×3500×2900mm	11010×3500×3400mm

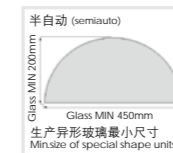
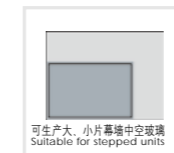


# ZK1800A/2000A/2500A

## Automatic Insulating Glass Production Line

### 中空玻璃自動生產綫

数字化输入控制系统  
Numerical Control System

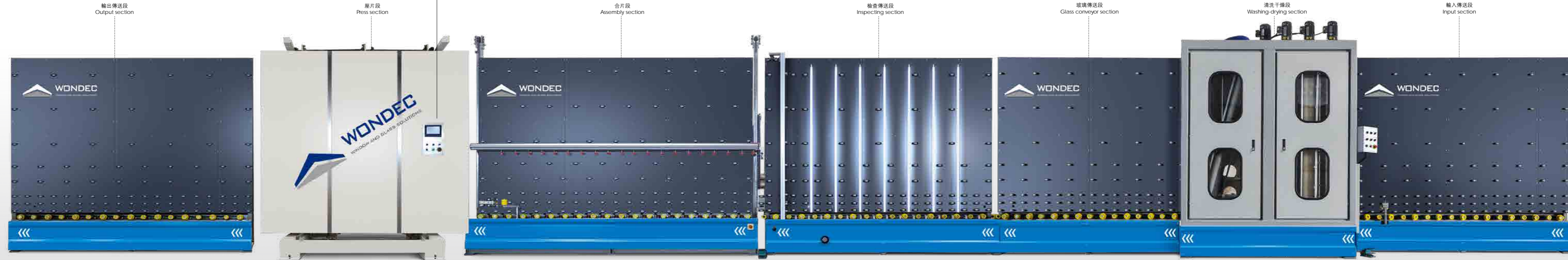
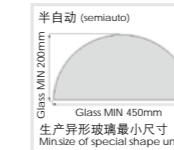


# ZK1800/2000/2500

## Automatic Insulating Glass Production Line

### 中空玻璃自動生產綫

数字化输入控制系统  
Numerical Control System





Cohesion Master Brand, Intellectually Making Chinese Quality  
品牌聯盟 聚力大師品牌 智造中國品質



# ZK1800A/2000A/2500A

## Automatic Insulating Glass Production Line

### 中空玻璃自動生產綫

#### Equipment Advantages 設備優勢

- Automatically distinguish the coating side of coated glass and Low-E glass.
  - PLC control system with touch screen operation.
  - Machine work and fault dynamic display.
  - Production lines with outside panel press can produce standard double layer IG and three layers IG.
  - Production lines are available for both of inside and outside panel press, which can produce stepped IG, standard double layer IG and three layers IG.
  - Inert gas filling in the plate (optional)
  - IG press design-gear and chain synchronous device driven by hydraulic station.
  - Frequency control designed for glass transmission.
  - Panel press openable, easy for maintainace.
  - Output: 800IG units-single shift 8 hours (double layer IG, size 1M).
- 可自動識別鍍膜、Low-E玻璃。
  - 全自動PLC控制，觸摸屏操作。
  - 動態顯示設備運轉及故障情況。
  - 中空玻璃生產綫板外合片，可自動生產雙層等片中空玻璃和三層中空玻璃。
  - 中空玻璃生產綫板內、板外合片雙功能，可自動生產大小片幕牆中空玻璃。
  - 板內充惰性氣體(選配)。
  - 玻璃壓合採用液壓站驅動齒輪齒條同步裝置，傳送玻璃採用變頻調速裝置。
  - 板壓可張開，方便設備維護。
  - 生產效率：單班8小時可生產800塊左右雙玻（雙玻長1M左右）。

#### Technical Parameter 技術參數

		ZK1800A	ZK2000A	ZK2500A
Total power	總功率	32kW	33kW	45kW
Max. glass size	最大生產規格	2500×1800mm	3000×2000mm	4000×2500mm
Min. glass size	最小生產規格	500×300mm	500×300mm	500×300mm
Single glass thickness	原片玻璃厚度	3~12mm	3~12mm	3~12mm
Max I.G. unit thickness	中空玻璃厚度	12~40mm	12~40mm	12~40mm
Glass washing speed	玻璃清洗速度	2~12m/min	2~12m/min	2~12m/min
Working speed	工作速度	2~45m/min	2~45m/min	2~45m/min
Stepped dimension	不等邊尺寸	X:0~150mm Y:0~50mm	X:0~150mm Y:0~50mm	X:0~150mm Y:0~50mm
Air flow (air pressure)	空壓機流量（氣壓）	0.8m <sup>3</sup> /min (1Mpa)	0.8m <sup>3</sup> /min (1Mpa)	0.8m <sup>3</sup> /min (1Mpa)
Water electrical conductivity	水電導率	≤ 40μs/cm	≤ 40μs/cm	≤ 40μs/cm
Overall dimension	外形尺寸	18550×3000×2900mm	19450×3000×3100mm	24200×3200×3600mm

# ZK1800/2000/2500

## Automatic Insulating Glass Production Line

### 中空玻璃自動生產綫

#### Equipment Advantages 設備優勢

- Automatically distinguish the coating side of coated glass and Low-E glass.
  - PLC control system with touch screen operation.
  - Machine work and fault dynamic display.
  - Production lines with outside panel press can produce standard double layer IG and three layers IG.
  - IG press design-gear and chain synchronous device driven by hydraulic station.
  - Frequency control designed for glass transmission.
  - Panel press openable, easy for maintainace.
  - Output: 800IG units-single shift 8 hours (double layerIG, size 1M).
- 可自動識別鍍膜、Low-E玻璃。
  - 全自動PLC控制，觸摸屏操作。
  - 動態顯示設備運轉及故障情況。
  - 中空玻璃生產綫板外合片，可自動生產雙層等片中空玻璃和三層中空玻璃。
  - 玻璃壓合採用液壓站驅動齒輪齒條同步裝置，傳送玻璃採用變頻調速裝置。
  - 板壓可張開，方便設備維護。
  - 生產效率：單班8小時可生產800塊左右雙玻（雙玻長1M左右）。

#### Technical Parameter 技術參數

		ZK1800	ZK2000	ZK2500
Total power	總功率	32kW	33kW	45kW
Max. glass size	最大生產規格	2500×1800mm	3000×2000mm	4000×2500mm
Min. glass size	最小生產規格	500×300mm	500×300mm	500×300mm
Single glass thickness	原片玻璃厚度	3~12mm	3~12mm	3~12mm
Max I.G. unit thickness	中空玻璃厚度	12~40mm	12~40mm	12~40mm
Glass washing speed	玻璃清洗速度	2~12m/min	2~12m/min	2~12m/min
Working speed	工作速度	2~45m/min	2~45m/min	2~45m/min
Stepped dimension	不等邊尺寸	X:0~150mm Y:0~50mm	X:0~150mm Y:0~50mm	X:0~150mm Y:0~50mm
Air flow (air pressure)	空壓機流量（氣壓）	0.8m <sup>3</sup> /min (1Mpa)	0.8m <sup>3</sup> /min (1Mpa)	0.8m <sup>3</sup> /min (1Mpa)
Water electrical conductivity	水電導率	≤ 40μs/cm	≤ 40μs/cm	≤ 40μs/cm
Overall dimension	外形尺寸	18550×3000×2900mm	19450×3000×3100mm	24200×3200×3600mm

# GT02/GT03

## Two-component Extruder

### 雙組份塗膠機



GT02



GT03

#### Equipment Advantages 設備優勢

#### GT02

- This machine is produced with the best technology in China and abroad. Used for coating sealant for the second seal of insulating glass.
- A (white) and B (black) component sealant pump use Korean original pneumatic system, reversing sensitive and reliable.
- Unique convenient adjustable ratio, guarantee the accurate sealant ratio upon to highest requirements.
- Sealant extruding is continuous and even with good sealing finish, high efficiency.

- 該機是集國內外最優秀技術生產的雙組份塗膠機，適用於中空玻璃及機械制造的密封粘接。
- A、B組份膠泵採用韓國原裝氣動驅動系統，換向靈敏可靠。
- 獨特的方便可調式配比機構，最大限度地保證雙組份膠近乎苛刻的配比要求。
- 出膠連續均勻，塗膠效果好，生產效率高。

#### GT03

- Use cylinder to provide power.
- Domestic sealant gun, stainless steel mixer.
- High pressure protect device.
- Anti-back flow control structure.
- Mixed rate detector can control the rate of two kinds of sealant.

- 採用氣缸提供動力。
- 採用國產膠槍和不銹鋼混合器。
- 設有高壓保護裝置。
- 備有特殊結構，防倒流。
- 混合率探測器，有效控制兩種膠的配置。

#### Technical Parameter 技術參數

		GT02	GT03
Mixing ratio	混合比	6:1~14:1	6:1~14:1
A drum	基料桶	55gallon (200L)	55gallon (200L)
B drum	固化劑桶	5gallon (20L)	5gallon (20L)
Sealant pressure ratio	膠氣壓力比	50:1	50:1
Max. air consumption	最大耗氣量	1.2m <sup>3</sup> /min	1.5m <sup>3</sup> /min
Air pressure	工作壓力	0.6~0.8Mpa	0.6~0.8Mpa
Overall dimension	主機外型尺寸	1100x950x1630mm	1200x1100x2500mm



# ABM02

## Automatic Spacer Bending Machine 自動鋁條折彎機



### Equipment Advantages 設備優勢

#### ABM02

- PLC control, touch screen simple operation.
  - Feeding system adopts CNC servo motor, bending angle uses CNC control system.
  - Four material storage slots for four different specifications of spacers.
  - Bending and cutting automatically avoid the spacer connection, the roundness, automatically cut after bending.
  - With manual operation model, easy to debug and repair.
  - It can make triangle, rectangle, regular pentagon, regular hexagon, roundness shape and so on.
- PLC控制系統，觸摸屏人機界面，設備操作簡單方便。
  - 採用數控伺服電機進料系統，數控折彎角度控制系統。
  - 四個儲料槽，可以分別存放4種不同規格的鋁條。
  - 折彎和切割時自動避讓鋁條之間連接處，圓弧處，折彎後自動切割。
  - 手動操作功能，便于設備的調試和檢修。
  - 可以折三角、矩型、正五方型、正六邊型、圓弧等形狀。

#### ABM01

- This machine is used for bending aluminum spacer. It can finish locating, bending and cutting aluminum spacer one time automatically.
  - PLC control.
  - It features easy operation, reliable positioning, steady running and large processing range.
- 彎框式高檔中空專用設備，解決了插角式中空玻璃角部密封難題，本機由PLC控制、定位、折彎、鋸切自動完成。性能穩定可靠、操作方便。
  - 本機用于中空玻璃鋁間隔條矩形折彎。
  - PLC控制系統，定位可靠，運行平穩，加工鋁框範圍大。



**ABM01**  
Semi-automatic Spacer Bending Machine  
半自動鋁條折彎機

### Technical Parameter 技術參數

		ABM02	ABM01
Power supply	工作電壓	380V/ 50Hz	380V/ 50Hz
Air pressure	氣壓	0.7Mpa	0.6Mpa
Aluminum bar specification	鋁條規格	6~27mm	5.5~26.5mm
Aluminium frame size	加工鋁框尺寸	Min. 200×250mm Max. 2500×2500mm	Min. 350×350mm Max. 2500×2500mm
Bending angle error	折彎角度誤差	±0.3°	±0.3°
Total power	總功率	4kW	2.5kW
Feeding speed	送料速度	0~90m/min	0~120m/min
Data base	加工數據庫	sametime set 4 specification×8 size 同時設定 4 組規格 ×8 種尺寸	/
Overall dimension	外形尺寸	10000×2200×2600mm	4400×1600×2300mm

# BEM02

## Automatic Butyl Extruder 丁基膠塗布機



### Equipment Advantages 設備優勢

#### BEM02

- Import gas-liquid pressure boost system makes sure the stable pressure and energy saving.
- PLC control, touch screen simple operation.
- Stepless speed regulation of frequency converter.
- Spray nozzle space automatic-adjusting according to the spacer width.
- Preheat available.
- Non butyl automatic alarm system.
- 采用進口的氣液增壓系統，使設備壓力更加穩定且節能。
- 采用PLC控制系統，人機操作界面。
- 變頻器無級調速。
- 膠嘴間距根據鉛框寬度自動調節。
- 設備具有預加熱功能。
- 無膠自動報警系統。



BEM01  
Automatic Butyl Extruder  
丁基膠塗布機

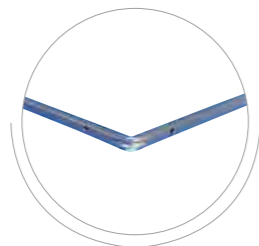
#### BEM01

- Advanced gas-liquid pressure boost system makes sure the stable pressure and energy saving.
- PLC control.
- Speed frequency control, speed adjustable (optional).
- Spray nozzle space manual-adjusting when working.
- Preheat available.
- Non butyl automatic alarm system.
- 采用先進的氣液增壓系統，使設備壓力更加穩定且節能。
- 采用PLC控制系統，人機操作界面。
- 變頻器控制多檔傳送速度可調（選裝）。
- 膠嘴間距在工作狀態下具有手動調節功能。
- 設備具有預加熱功能。
- 無膠自動報警系統。

### Technical Parameter 技術參數

		BEM02	BEM01
Input power	電功率	4kW	4kW
Power supply	電源	380V/ 50Hz	380V/ 50Hz
Conveying speed	輸送速度	21m/min/28m/min	6~25m/min
Extruding temperature	打膠溫度	110~160 C	110~160 C
Air pressure	氣動壓力	0.5~0.8Mpa	0.5~0.8Mpa
Extruding pressure	擠膠壓力	10~15Mpa	10~25Mpa
Adjustable range of extruding nozzle	膠頭可調範圍	6~27mm	6~27mm
Overall dimension	外形尺寸	3000×650×1000mm	3000×600×950mm

## FGJ-05 Automatic Desiccant Filling Machine 自動分子篩灌裝機



### Equipment Advantages 設備優勢

- PLC control, desiccant filling in closed condition, improving efficiency and IG service life .
  - Aluminum spacer back side drilling, filling and automatic sealing.
  - Suitable for bendable aluminum spacer and aluminum spacer with connector.
  - Filling height adjustable according to the size of aluminum frame.
  - Special filling device with automatic desiccant feeding.
- 針對折彎鋁框設計由PLC控制，在密閉條件下灌裝，解決了干燥劑吸水汽失效，提高效率及中空玻璃壽命。是折彎式中空玻璃生產中的必備設備。
  - 鋁條背面打孔、灌裝、自動封膠。
  - 可灌裝自動折彎成形鋁框和普通直角鋁框。
  - 灌裝高度可根據鋁框大小調節。
  - 獨特的先進上料裝置，可自動補料。

### Technical Parameter 技術參數

		FGJ-05
Working pressure	工作壓力	0.5~0.8Mpa
Working power	工作電壓	220V
Filling speed	灌裝速度	8~12s/piece(1m×1m 9a)
Aluminum spacer min.	鋁條最小	200×250mm
Aluminum spacer max.	鋁條最大	2500×2500mm
Overall dimension	外形尺寸	1000×820×2900mm

## SKJ01 Spacer Moving Machine 鋁間隔框輸送機



## IGJ03 Spacer Cutting Machine 鋁條切割鋸



## XZT01 Rotating Table 旋轉塗膠臺



## LTD-300 Glass Unloading Machine 吊臂

