



D&H

广州大恒自动化设备有限公司

Guangzhou Daheng automation equipment Co., Ltd.

Expert In Adhesive Control Solutions

# AB vacuum potting machine VGB-450Q



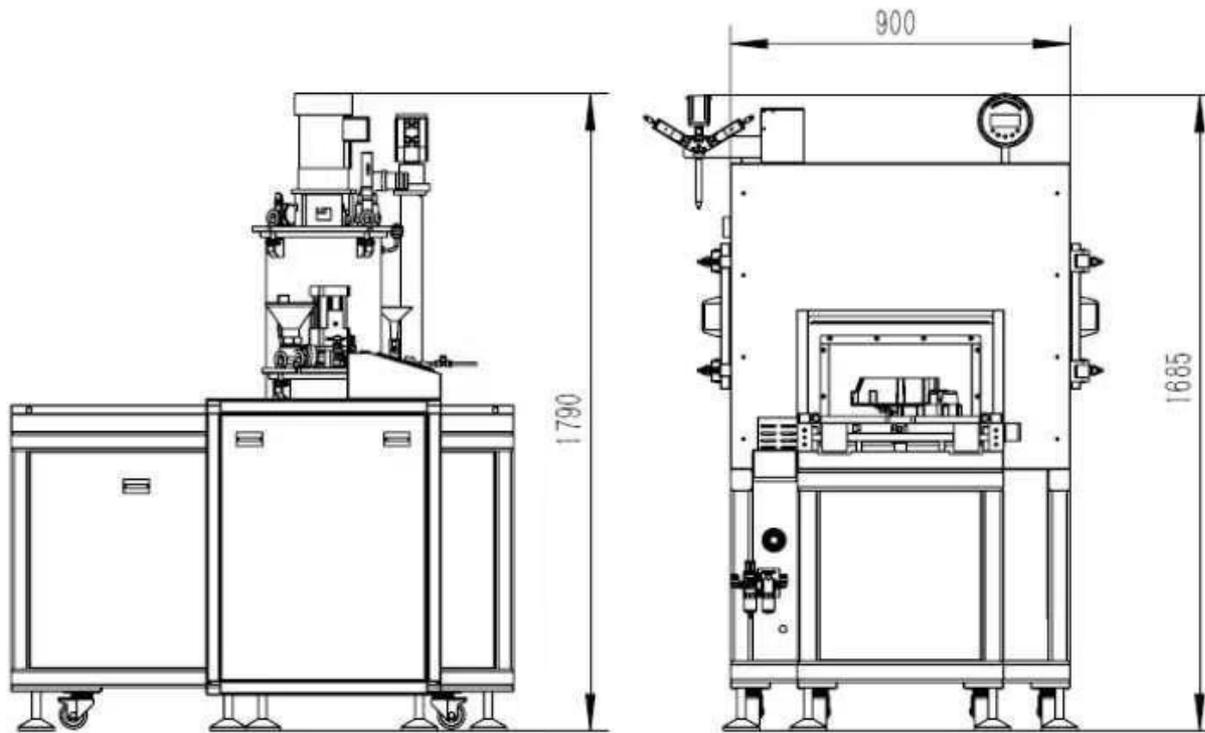
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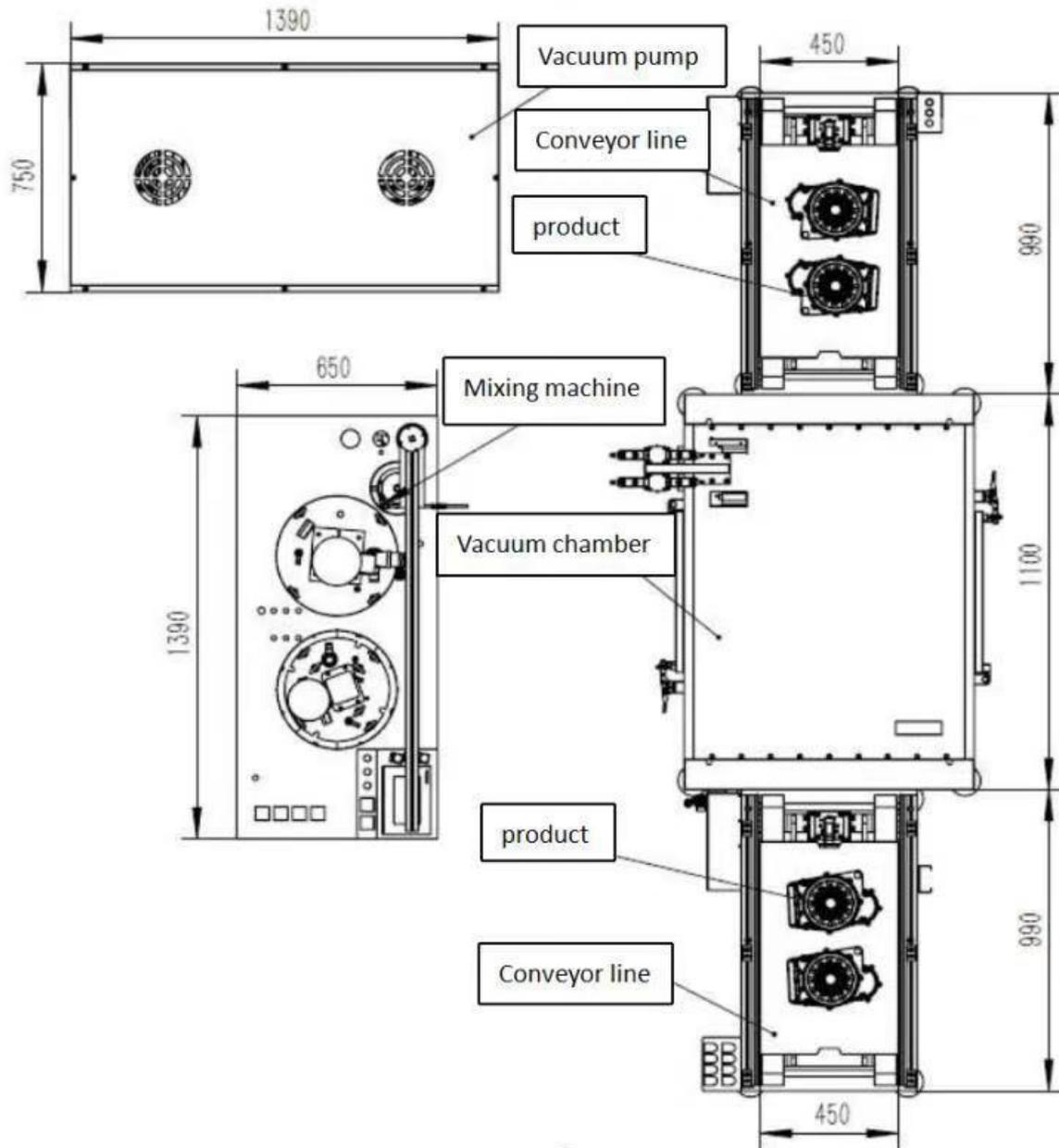
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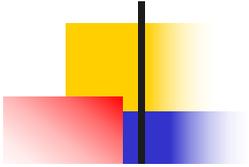


# AB vacuum potting machine VGB-450Q



创新改变未来

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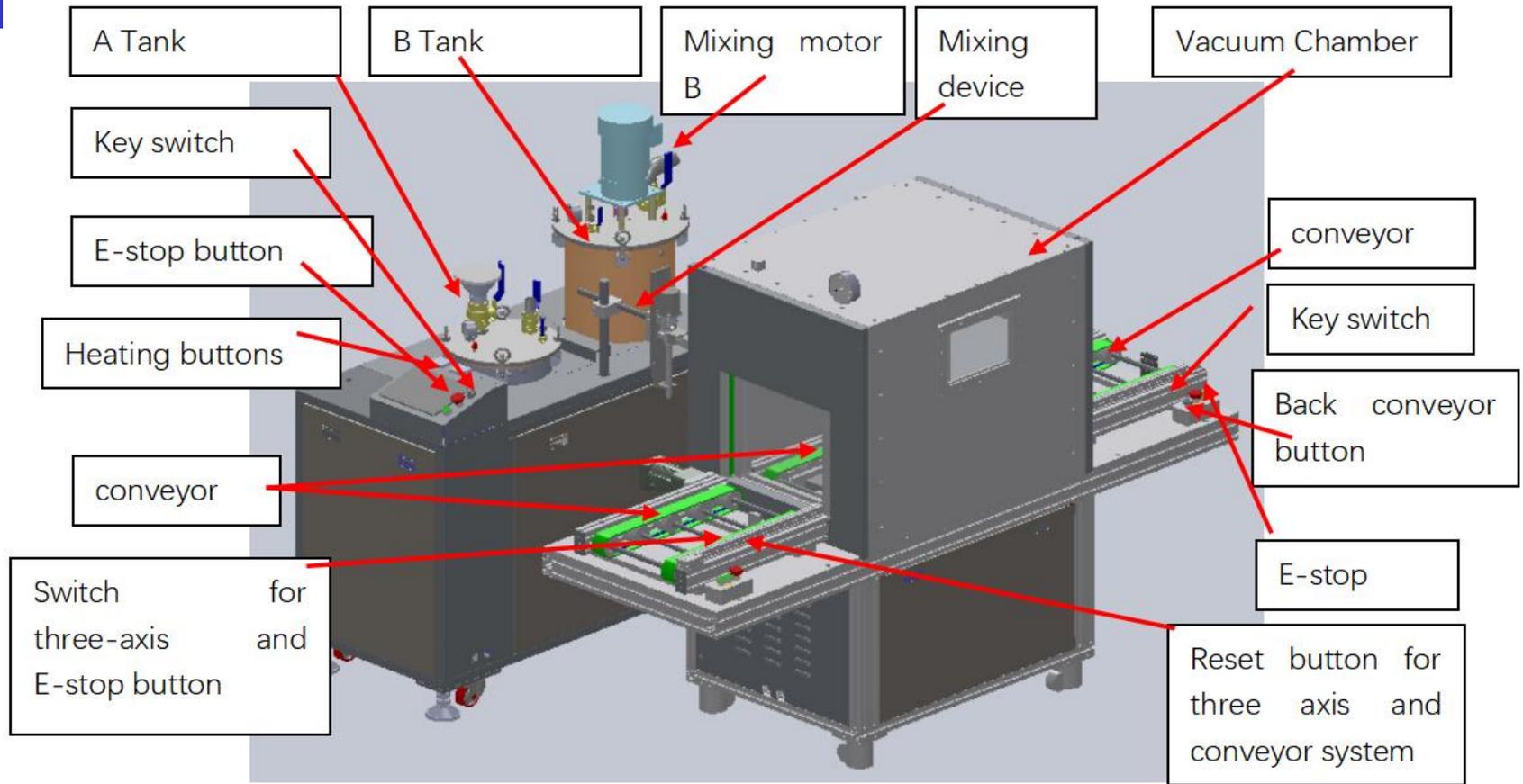
Remark : Pictures just for reference,actual configuration is defined by potting material feature.

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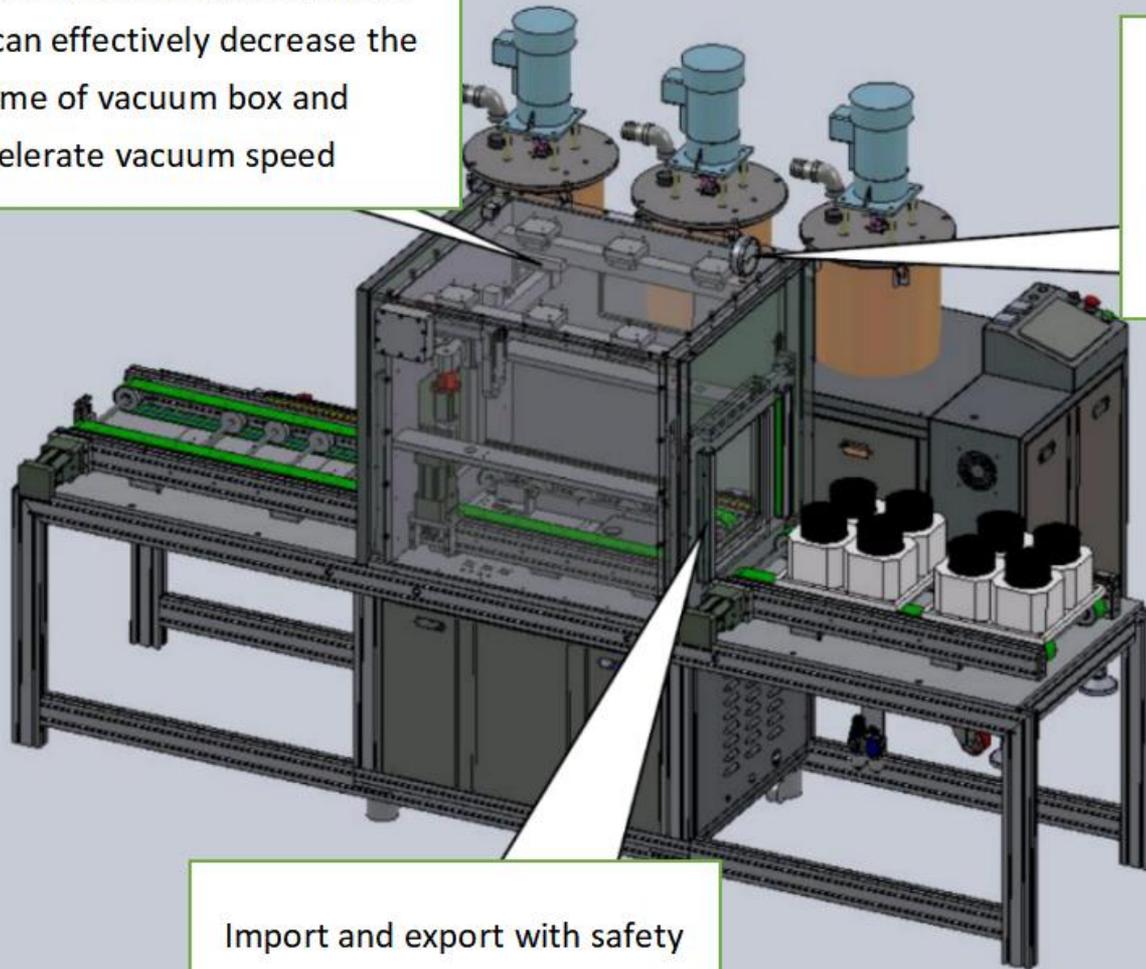
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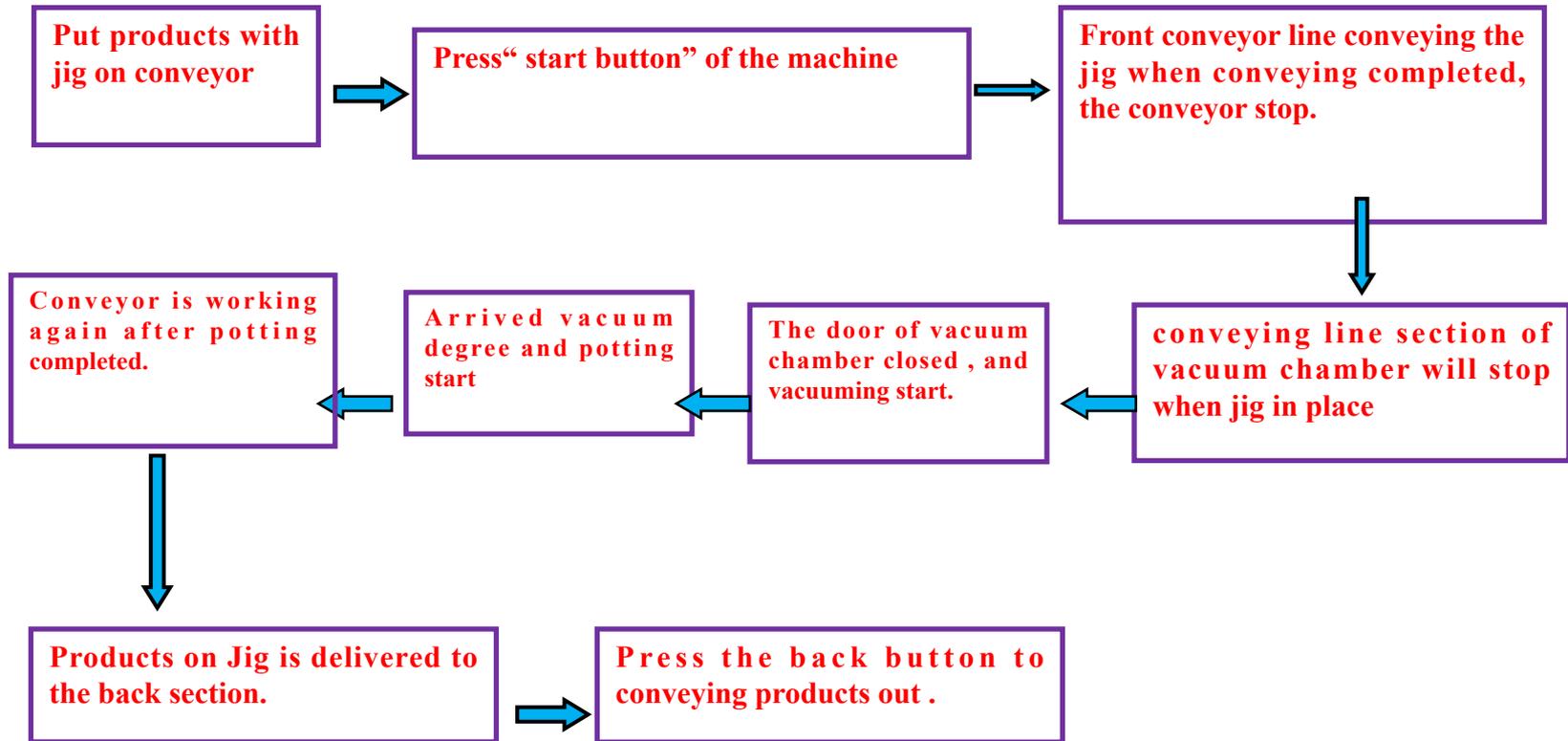
Three axis vacuum box installed in the top can effectively decrease the volume of vacuum box and accelerate vacuum speed

Digital vacuum pressure gauge ensure to stop vacuum pump automatically when vacuum to the setting value .



Import and export with safety production device to ensure the safety of operator

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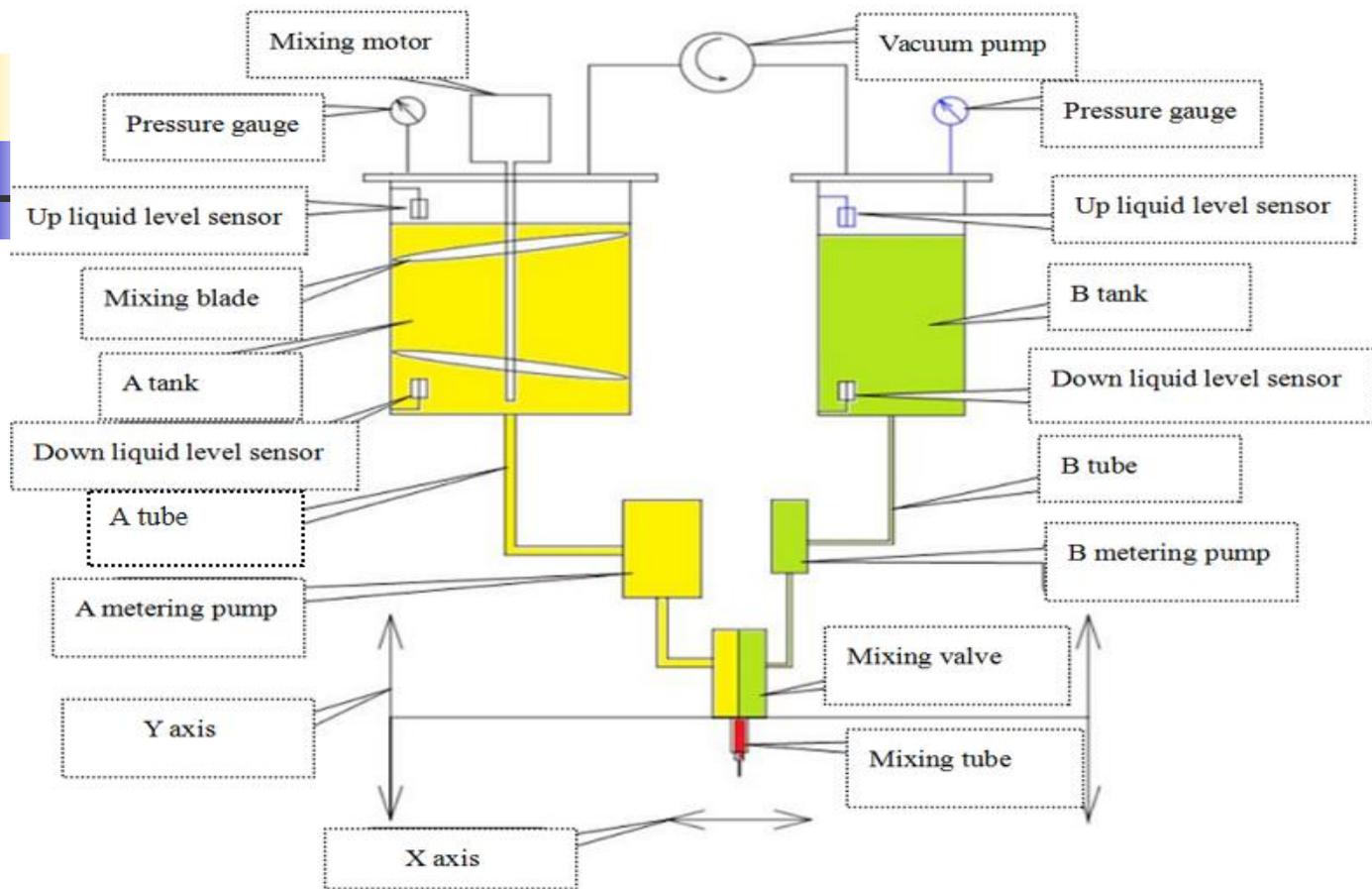


**VGB-450Q**

## Introduction :

1. High precision valve: high speed, glue off clean, no glue drawing, no dropping.
2. Patented Daheng plunger pump.
4. Mix glue A & B more evenly; no more or no less for agent B.

# Working principle of Daheng Potting machine



Compound materials A & B are kept in two tanks separately. There are two sets of metering pumps inside the machine for metering A and B resin by setting ratio, draining out material individually from tank A & B. Liquid A & B mix with each other in the mixer pipe and dispensed out according to the programmable data.

# AB vacuum potting machine VGB-450Q

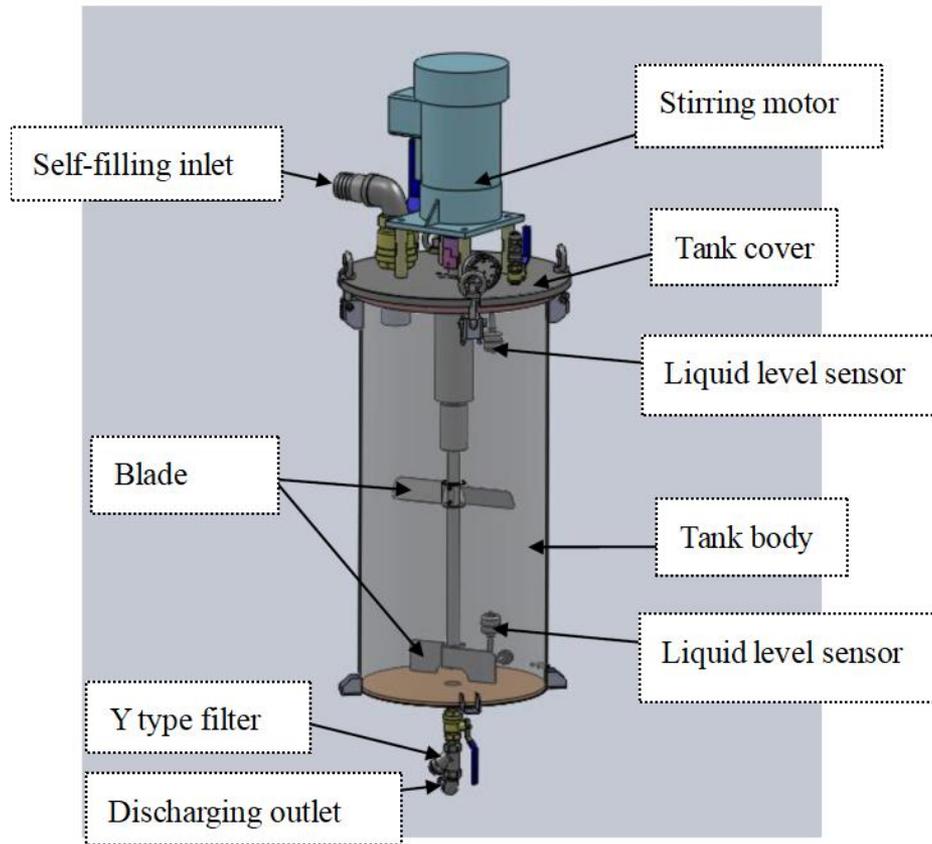


**VGB-450Q**

## Tech Data:

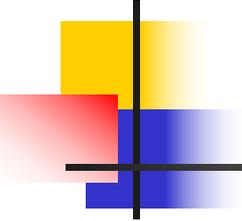
1. Dispensing Speed: 0.5-12g/s per single pump (the output volume is defined by AB ratio)
2. Repeatability: +/-2%
3. Glue Ratio: 1:1 to 10:1 adjustable
4. Tank Capacity: 10L, 25L, 40L available
5. Size: L1500xW1200xH1500mm
6. Weight: 850kg
7. Power: 1.5KW, Voltage: 220V & 380V optional
8. Air Pressure: 0.3-0.7MPa ( 3-7 kgf/ cm<sup>2</sup> )

# AB Tank Configuration



As per customer's resin feature and product process to select corresponding functions of tank.

The stirring, vacuum degas; self-feeding, heating, anti-crystal devise are available; Each tank with the top /high/low liquid level sensors and bottom ball valve .



# Detail description of AB Tanks

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- 1.1 Stainless panel vacuum pressure tank which can bear negative pressure of inner tank .
- 1.2 Tank with motor stirrer that prevent the glue from sediment and keep the potting material in constant temperature.
- 1.3 Tank with top/ high /low liquid sensors that ensure alarm warning when liquid higher or lower the setting level .
- 1.4 Tank with vacuum degas (degas time can be set through touch screen), so the material can be re-feeding through vacuum negative pressure .
- 1.5 Tank with pressure releasing ball valve ; the bottom of tank reserved back-flow connector and river closure ball valve.
- 1.6 Tank with artificial feeding mouth that can be added glue appropriately by hand .
- 1.7 Tank with silica-dryer which can prevent material especially PU from crystallization .

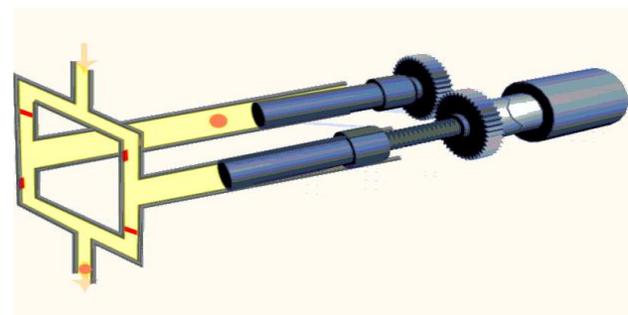
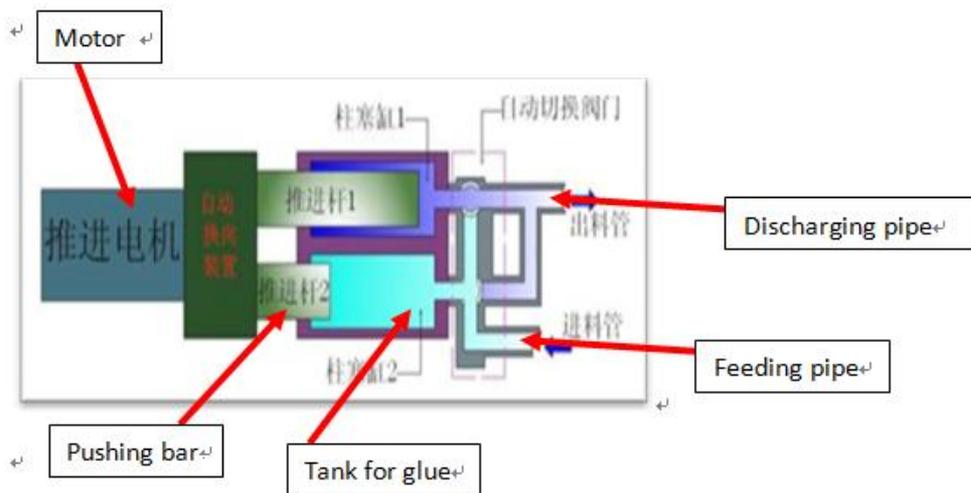
## Technology of Daheng Double Cylinder Plunger Pump



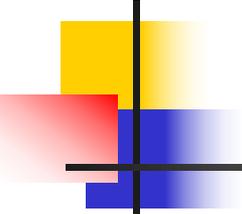
- 1. Two cylinder plunger pumps work by turns, short reversing time, only take 0.1s each time.
- 2. The biggest flow volume :10g/s, Repetition accuracy:0.2g.
- 3. Also Suitable for high viscosity glue: 1cps~30000cps.
- 4. Suitable for big flow dispensing or slight flow dispensing.
- 5. Suitable for frequent start and stop dispensing.
- 6. Anti-wear, Anti-corrosion, super long life time.

# Daheng

## Double Cylinder Plunger Pump



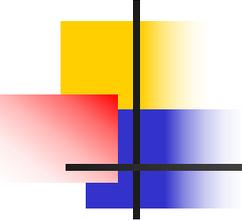
- **Working principle:**
- As the pushing bar push forward and the room volume change, and the gluing amount change, which means what amount of the bar push forward is the amount of gluing out.



# Description of Daheng Double Cylinder Plunger Pump

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- 1. Quantify metering system with high precision ( $\pm 1-2\%$ ) , suitable for middle to low viscosity two component material ratio .
- 2. Adapting foreign technology that further improved sealing position and metering in good accuracy.
- 3. Graphite sealing components ; stainless pump ; stainless connector ensure the pump with long lifespan and anti corruption .
- 4. Metering pump have Daheng high pressure and high precision double liquid valve , with vary sealing methods and adjustable retract function, that is convenient for glue valve cleaning and precision glue dispensing .
- 5. Controlling system can program resin dispensing in high precision and reserved many glue dispensing programs .
- 6. Inset self-check controlling system module makes fault detection rapidly .
- 7. Through different collections of metering pumps realize the changeable ratio from 1:1 to 10:1 .
- 8. Keep steady dispensing design , the glue-amount can be adjusted from 0.5g/s~12g/s per single pump, ab pump dispensing amount can be set accordingly to ab ratio .
- 9. Double cylinder plunger pump's structure especially suitable for high additive ,high density materials . The lifespan is designed for 10 years .

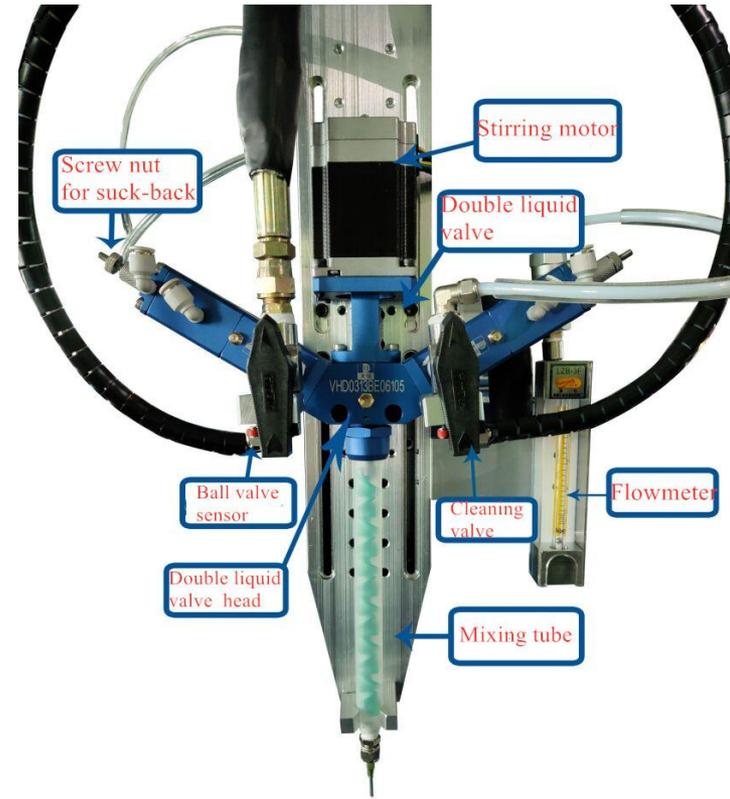


# Advantages of Daheng Double Cylinder Plunger Pump

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- 1.High accuracy, and mix ratio can be change in larger scale.
- 2. the bar doesn't touch the tank surface, even if there is stuff in the glue, no wearing caused.
- 3.This pump has unique design of anti-back flow device, even if one side pressure is big too much, it won't back flow, and also, it is good for frequent start and stop dispensing.
- 4. The pump material is anti-corrosion.
- 5.Long life time because no wearing.

# Valve technology of VGB-450Q

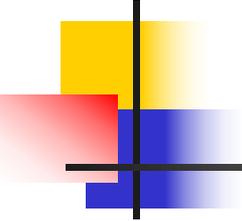


VGB-450Q

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# Valve technology of VGB-450Q

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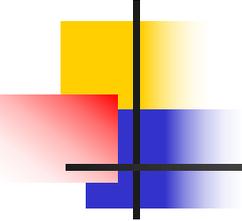
- 1.The mixing motor drive the blade to stir the glue evenly. The mixing process totally seal ; the double liquid valve and mixing pipe filled with glue that assured glue mixing without any air bubble;the valve through turn on-off the air-cylinder to keep glue suck well and prevent glue from dropping .
2. Stirring motor speed is 2000r/m, which can fully stir glue evenly.
3. Mixing pipe is consumable that from Sulzer Mixpac MR13-12; as per machine downtime , the mixers should be cleaned or soaked in cleaning fluid.
- 4.Dynamic mixing with stirring detecting function(optional) that ensure glue mixing evenly .
5. Stainless design of the glue touch surface to capture more higher material compatibility .
- 6.Glue valve with flow-back prevent function that can prevent mixture from dropping when stop dispensing .
7. Sealing parts of rod shaft adopt imported parts to keep more higher durability .
8. The self-cleaning function make machine cleaning more easier that you need' t dis-assembly the parts to wash . Cleaning time and cleaning times could be set in the touch screen.

**VGB-450Q**

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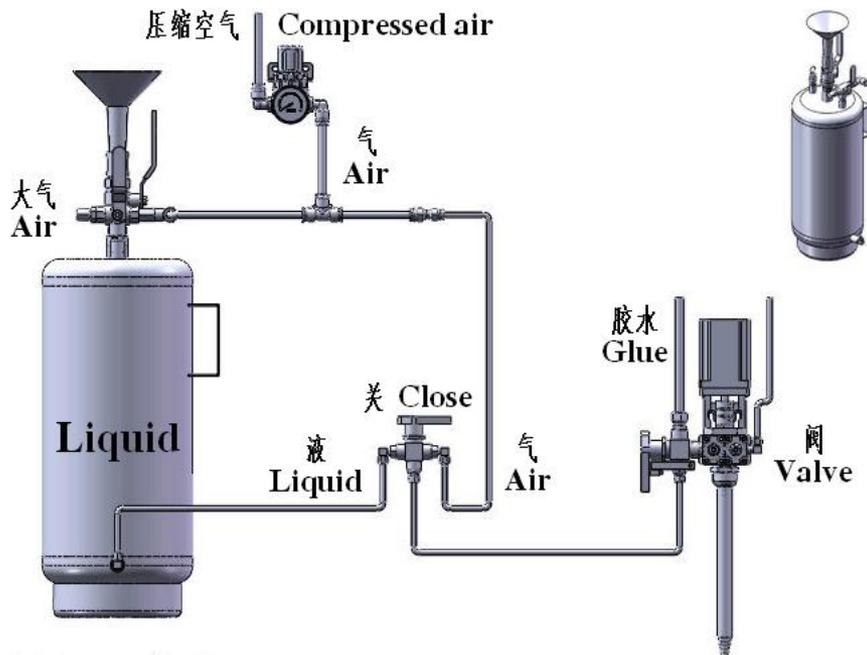


# PLC Operation Controlling System

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- 5.1 Dispensing volume is controlled by the speed of pump's motors ; Glue speed adjustable within the speed range .
- 5.2 Machine with detecting function that detect the speed and running time of pumps to ensure the ratio reliability.
- 5.3 Adjustable gluing-out volume make sure glue A/B dispense out at the same time from glue valve to get better glue mixing effect .
- 5.4 Machine with gel resistance calculator , which prevent the mixture curing inside .
- 5.5 You can set single gluing-out and steady gluing-out function to meet up with your different process requirement .
- 5.6 Whole machine system and function is controlled by Panasonic PLC and MGCS touch screen .
- 5.7 Reserved PLC communication interface, which easy connecting with outside device .
- 5.8 Equipped with a safety lock to prevent staff from wrong operation .

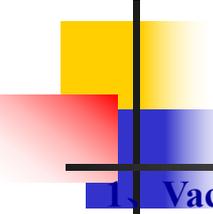
# Self-cleaning function



- A) Turn the cleaning ball valve to the liquid position;
- B) The cleaning switch points to "air" and uses compressed air to discharge most of the mixture in the mixing tube;
- C) The cleaning switch points to "liquid". If there is a dynamic mixing motor, turn on the dynamic mixing motor before changing the clean switch;
- D) After cleaning, the cleaning switch points to "air" and uses compressed air to clear the cleaning liquid in the mixed tube;
- E) The cleaning switch points to the middle position once finished.

# Tech parameter

Glue ratio	1 : 1 ---10: 1
Ratio accuracy	±2%
Glue-out speed	0.5g/s --12g/s (Per single pump)
Glue-out accuracy	±2%
Program memory	99pcs
Glue viscosity	50cps~35000cps (Reference data)
Operation Mode	Manual mode /Automatic mode
Ratio Control	PLC/ Double plunger pump (Can change different type of metering pumps)
Flow Control	Digital input
Parameter display	Pointer / digital display
Automatic control system	Touch screen / button switch/ third party signal
Mixing Method	Static mixing / Automatic cleaning
Storage Tank	Stainless steel A and B(10L,25L ,40L optional)
	Stainless steel cleaning barrel C (5L)
	Vacuum degas (-0.1MPa)
	Liquid level sensor (Low liquid level/high liquid level)
	A/B Tank stirring
	AB glue constant temperature heating(available)
	Glue filter
Power	220V/50Hz/5000W
Outer dimension	Glue Potting Machine: 995mm×600mm×1500mm
Frame Materials	Cold rolled steel/industrial aluminum/stainless steel/sheet metal



# Vacuum Chamber three axis glue potting machine

## 1、 Vacuum Chamber

- 1.1 Configure security grating toughened glass , observation window, inlet and outlet with safety protection device , to ensure the safety of operators.
- 1.2 Digital display vacuum degree with time setting function , PLC communicate with glue mixing machine; can work automatically.
- 1.3 Vacuum inspect control system , 55L/s vacuum pump to assure vacuum efficiency.

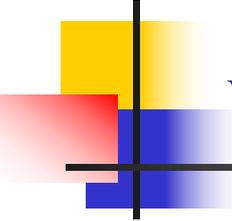
## 2、 Vacuum glue dispensing valve

- 2.1 Vacuum special glue valve used for glue potting and prevent glue from dropping .
- 2.2 Stainless steel design for glue touched parts , rod shaft sealing parts are use original import parts to keep high durability .
- 2.3 Vacuum valve can be washed via self-cleaning , to prevent remained glue inside and caused blocking .

## 3、 Three axis working platform

- 3.1 Three axis chamber installed on the top , which is curtail the chamber volume efficiently and accelerate vacuum speed .
- 3.2 Touch screen operation , English & Chinese operation version , can record and display different parameter .
- 3.3 Program dot , line , arc , circle and some irregularity products . Glue potting files can be edit on programming or import from CAD. The program memory 999pcs . The touch screen programming support the whole column , graphical browsing , group editing and other functions.
- 3.4 Z axis fixed board can be adjusted up and down to adopt different workpieces on different heights , you don't re-edit the working path , but only adjust the working path when replace the nozzles





## Vacuum Chamber Conveyor Line

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The Chain conveyor line is made of conveying chain ,dispensing positioning unit, tooling plate.

### 1、 Conveying chain

Width of the line : 150-450mm, Can be customized;

Height of the line: 750mm, Range from 500-1000mm;

Conveying speed: 0-300mm/s, asynchronous motor gear rotation ;

Chain form: Chain and roller transfer constant speed - double pitch roller chain, with chain tension regulator;

Frame materials: Aluminum profiles, carbon steel

### 2、 Dispensing positioning unit

2.1 The order was output from PLC or micro-controller programs, the air source is switch by pneumatic electromagnetic directional valve and worked by air cylinder .

2.2 The cylinder jacking positioning unit realizes the positioning of the tooling

2.3 When the dispensing operation is not completed at the dispensing station , the blocker prevents the upstream tooling plates from continuing to flow in next stages.

## Tech data

	Parameter	Category	Specification
Mixing ratio	1:1—10:1	Speed	0-250mm/s (displacement speed)
Working area	Inner area:450x400x80mm, Dimension: 900x790x760mm		
Program memory	999 pcs	Precision	±0.1mm (accuracy of displacement) ±2% (mixing accuracy)
Input air pressure	0.3MPa—0.8MPa		
Viscosity range	50cps~30000cps	Working path	Dot, line , arc , circle
Operation mode	JOG/AUTO		
Control system	PLC	Auto control system	Industrial touch screen program with programming modification, storage and so on
Flow control	Digital input		
Programming method	Teaching programming	Out-glue control system	AB glue suck-back valve /vacuum suck back skill.
Mixing mode	Dynamic		
Power	380V/50Hz/1200W	Storage system	Stainless steel tanks A Tank: 40L & B Tank: 25L(10L,25L ,40L optional)
Vacuum degree	-0.1MPa	Vacuum time	90S (as per different requirement)

# Tech Data

Category	Configuration	Quantity
Frame	Thick aluminum sheet+ Square tube welding frame	1 Set
Controlling system	3axis motion control card	3sets
	Software system	1set
	Driver	3pcs
3axis moving platform	Linear module	3sets
	Stepper motor	3pcs
Vacuuming system	Vacuum pump	1unit
	Vacuum degree control device	1set
	Vacuum valve	1set
	High vacuum ball valve component	3sets
Belt conveyor	Conveyor belt	6pcs
	Speed motor	3pcs
	Frame of conveyor	2sets

# Machine accessories included

Item	Accessories name and model number	Quantity	Remark
1	Double liquid valve sealing components	4 sets	Double liquid valve wearing parts with NRB/Four fluorine graphite material that is anti-corrosion and wear resistance ;which normally replaced as per materials feature .
2	Dynamic mixer pipe MR13-12	10 pcs	Consumables
3	Tool	1 set	Standard
4	User manual	1 pc	Standard

# AB component dispensing machine PGB-650B

Application :



**1.Potting&Encapsulation &Casting:** Electronics componnets , PCB board, Capacitor, power supply, transformer, ignition coil, E-motors ,reverse sensor, circuit board, filter products ,underwater parts, electronic ballast ,aviation parts, aerospace parts....

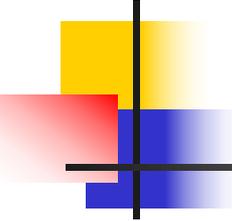
# Material available

## Applicable materials:



1K and 2-component polyurethanes, epoxies, acrylics, silicones, temperature, humidity and UV curing materials.

Two component potting materials , 2-part compound materials, AB part compound materials , 2K silicones ,2K epoxies resin, Bi-component PU, Ployerster, Polyurethane, UV materials and so on .



# Service Terms

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## 1、 Staff training

Seller is responsible to provide machine' s training including installation, debugging, maintenance to assured customer can totally use the operation skills and well acknowledge maintenance of machine .

## 2、 Maintenance Service

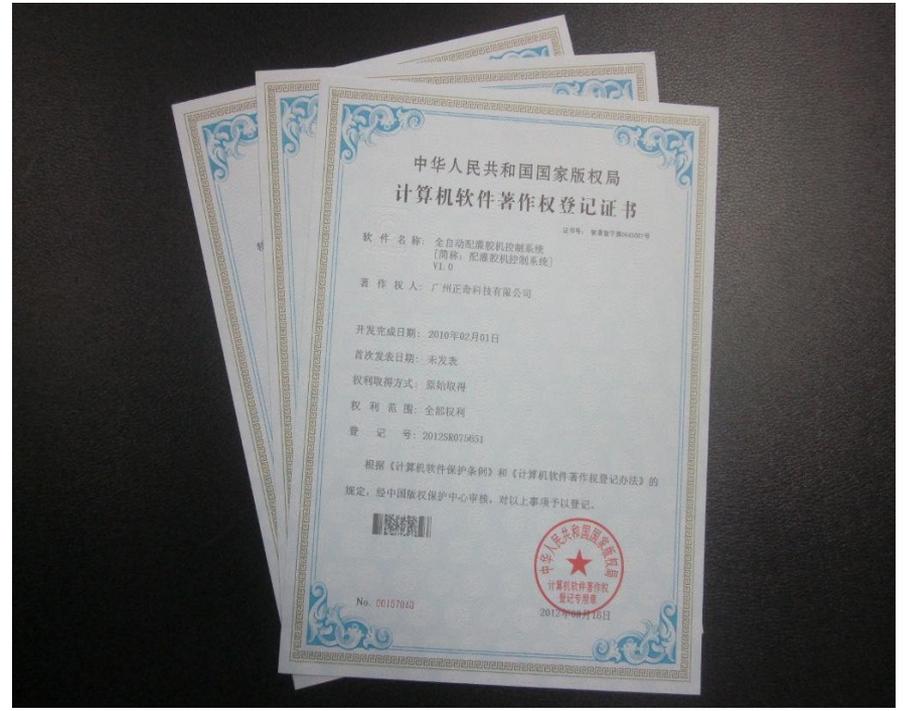
2.1 Seller provide one year warranty period and support free maintenance service during warranty . Software upgrade service is provided for a long life time.

2.2 In case parts of the machine become broken within the warranty because of non-artificial factors, we send you part replacement free, buyer pay for the shipment. Double-liquid valve should be bought at its cost price.

2.3 If the parts of the machine become broken past warranty , the parts replacement should be shouldered by buyer.

# D&H Advantages

## Technology Patent Certification



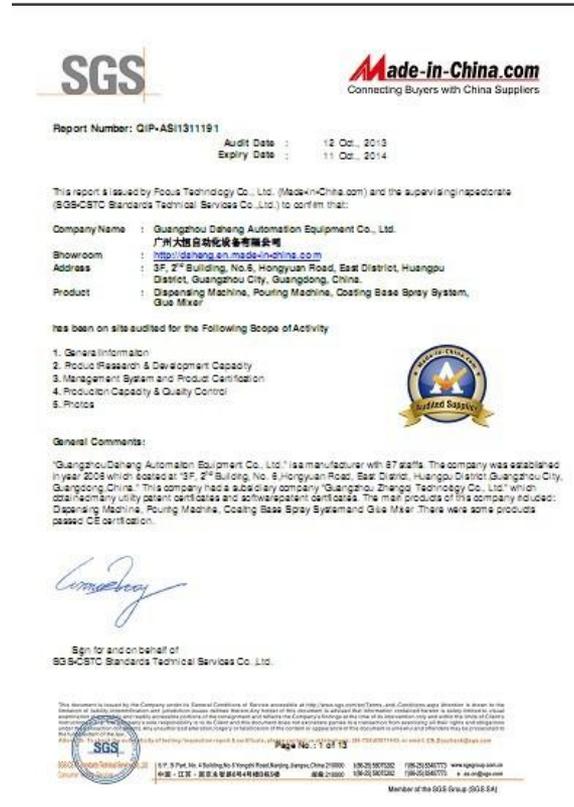
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# D&H Advantages

## SGS Certification



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# Corners of the Workshop



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**Thank you!**

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